DRAFT

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF APRIL 12, 2018 SPECIAL MEETING

CALL TO ORDER

Vice Chair Ballantine called the meeting of the Utilities Advisory Commission (UAC) to order at 7:00 p.m.

Present: Chair Danaher (arrived at 7:02 p.m.), Vice Chair Ballantine, Commissioners Forssell, Johnston, Schwartz
Absent: Commissioners Segal, Trumbull

ORAL COMMUNICATIONS

Beth Minor, City Clerk, announced recruitment is underway for positions on the Historic Resources Board and the Human Relations Commission.

APPROVAL OF THE MINUTES

Commissioner Johnston moved to approve the minutes from the March 7, 2018 regular meeting. Vice Chair Ballantine seconded the motion. The motion carried 5-0 with Chair Danaher, Vice Chair Ballantine, and Commissioners Forssell, Johnston, and Schwartz voting yes.

AGENDA REVIEW AND REVISIONS

None

REPORTS FROM COMMISSIONER MEETINGS/EVENTS

Commissioner Schwartz attended the second meeting of the low-income community solar working group. Although community solar was not the cheapest form of electricity, she continued to be impressed with the other reasons to do community solar, such as building familiarity among utility and emergency services staff of having local solar. The community engagement benefits were key, and it was worth discussing ideas such as including solar installations as part of public buildings on publicly owned land. She requested time to share ideas from the meeting during relevant UAC discussions.

Vice Chair Ballantine reported on the discussions he and Commissioner Schwartz had with Utilities and Emergency Services staff to discuss resiliency from the emergency perspective. There was a productive exchange of ideas including a plan to create a workshop related to resiliency with some problems that could be presented for attendees to brainstorm.

Commissioner Schwartz suggested inviting local corporations and entrepreneurs to attend the workshop as they could raise useful issues and ideas for discussion. She had found it very helpful to have direct conversations with staff on topics like resiliency.

UTILITIES GENERAL MANAGER REPORT

Ed Shikada, Utilities General Manager, delivered the General Manager's Report.

NCPA Expanding Relationships with Community Choice Aggregation (CCA) Providers: Northern California Power Agency (NCPA) recently won a contract to provide energy scheduling and related services to the City of San Jose's newly formed Community Choice Aggregation (CCA) provider, San Jose Clean Energy. As more CCAs are formed throughout California, NCPA has successfully competed to provide these services to four of them, including large providers like East Bay Clean Energy. These contracts allow NCPA to use its existing power scheduling infrastructure to raise additional revenues to the benefit of its members. NCPA is on track to receive $1.8 million in revenue this year that directly offsets its $11.3 million power management budget, a 16% decrease that will reduce Palo Alto's costs for power scheduling. This is one of several efforts underway in collaboration with our partners to contain electric utility costs for Palo Alto consumers.

Utilities Strategic Plan: City Council approved the Utilities Strategic Plan on March 19. Thanks again to Commissioner Schwartz for her attendance at both the originally scheduled Council review date on February 26 as well as Council meeting on March 19. The Department is now moving into the implementation phase of the Strategic Plan. Our management team and core planning group will remain involved in the execution of the Strategic Direction and Priorities, engaging staff within the Department, as well as other stakeholders, for our collective success. We appreciate the input and guidance from the entire Commission throughout this process.

Upcoming Events: (Details and registration are available at cityofpaloalto.org/workshops)

- **Great Race for Saving Water and Earth Day Festival**: The fifth annual Great Race for Saving Water and Earth Day Festival is this Saturday, April 14, from 9 a.m. to 1 p.m. at the Palo Alto Baylands. We invite you to join us and other Bay Area organizations for a 5 kilometer run and walk and kids 1 kilometer fun run to celebrate healthy living, healthy communities, and a healthy environment. The day starts off at 9 a.m. at the Baylands Athletic Center with the Great Race for Saving Water 5K. The fun continues through 1 p.m. with an Earth Day Festival offering live music, food trucks, raffle drawings, electric vehicle (EV) ride & drive, nature activities, arts & crafts, community booths, environmental and public safety resources. More event information can be found at cityofpaloalto.org/earthday.

- **Electric Vehicle (EV) Ride and Drive at the Earth Day Festival with Acterra**: The City is partnering with Acterra to offer the EV Ride and Drive at the Earth Day Festival on Saturday. At last year's Earth Day Ride and Drive, 166 people test drove an EV! Studies show that 75% of people who drive an EV will likely consider making their next vehicle purchase electric.

- **Mini Sustainable Landscape Workshops at Earth Day Festival**: We are also hosting mini workshops on sustainable landscaping at the Earth Day Festival in partnership with BAWSCA and Santa Cruz Permaculture. Topics include: Lawn Replacement 101, Permaculture, and Easy-to-Grow Native Plants.

- **Heat Pump Water Heater Workshop**: Join us April 24 as we co-host a Heat Pump Water Heater (HPWH) workshop with Passive House California, inviting residents, manufacturers, other public agency representatives, and decarbonization groups to learn about the technology.

- **Municipal Services Center (MSC) Open House**: Back by popular demand – the City is hosting an open house at the Municipal Services Center on May 12! As part of Public Service Employee Recognition week, which is May 6-12 this year, the City is hosting a series of activities to celebrate our employees and connection with the community. In addition to an employee appreciation picnic and service awards for staff, we are inviting the public to join us on Saturday, May 12, at the MSC for a behind-the-scenes look at the City services that keep our community running. The MSC will be open to the public from 9 a.m. to 1 p.m., with project demonstrations, displays, and fun activities from Utilities, Public Works, Facilities, Police, Fire, and Community Services. We invite the UAC to join us!

COMMISSIONER COMMENTS

Commissioner Schwartz, after attending the recent Council meeting, thought a disconnect existed between Commissioners' and the City Council's priorities. The study session the UAC and Council had several months prior had clearly not surfaced these differences. For example, some Council members seemed more concerned about keeping Palo Alto's rates competitive with other utilities, even if rates ended up not fully recovering costs, while the UAC had focused on raising rates to cover costs, with the understanding that in some cases the utility might not be as competitive. She requested guidance regarding ways to align the two viewpoints.

Ed Shikada, Utilities General Manager, remarked that a question or topic posed in a joint study session may not contain sufficient specificity for the Council to provide a substantive response. Specific proposals elicit more thorough reactions from the Council. The Council's upcoming consideration of utility rates will be a good opportunity to obtain more specific information regarding the Council's viewpoint. He also suggested a UAC representative address the Council at pertinent meetings to convey the UAC's deliberations and areas of concern.

UNFINISHED BUSINESS

None

NEW BUSINESS

ITEM 1: ACTION: Staff recommendation that the Utilities Advisory Commission recommend the City Council adopt 1) a Resolution approving the Fiscal Year 2019 Electric Financial Plan, and 2) a Resolution increasing Electric Rates by 9% by amending the E-1, E-2, E-2-G, E-4, E-4-G, E-4 TOU, E-7, E-7-G, E-7 TOU, and E-14 Rate Schedules.

Ed Shikada, Utilities General Manager, noted a revision in the proposed rate increase. Staff originally recommended a 9% rate increase but is now proposing a 6% rate increase.

Erik Keniston, Senior Resource Planner, reported that the recommended rate increase for the Electric Utility is 6% in fiscal year 2019 followed by a 3% increase in fiscal year 2020 and a 2% increase in fiscal year 2021. With the recommended rate increase, revenue projections should match cost projections. Last year, staff projected a 7% rate increase. In the short term, staff is projecting a slight increase in Capital Improvement Program (CIP) expenditures related to one-time projects, but then costs decrease after 2021. Some of the capital investments are related to Smart Grid improvements. In current models, staff assumes funding for Smart Grid improvements will come from the Electric Special Projects Reserve Fund. The majority of the change in expenses between fiscal year 2016 and fiscal year 2022 is driven by the supply portfolio. Between fiscal year 2019 and fiscal year 2022, costs will be about the same overall. Supply reserves remain relatively healthy. At this time, staff projects a withdrawal from the Hydroelectric Stabilization Reserve Fund of approximately $1 million. If drought or a dry hydroelectric year occurs, having more money in the Reserve Fund will be critical to the financial health of the Electric Utility.

In response to Chair Danaher's query asking whether the utility was receiving less hydroelectric power than expected, Jonathan Abendschein, Assistant Director of Resource Management, explained that March storms helped alleviate the dry year through February. The City will receive less than average hydroelectric generation, but it is not extremely low.

Keniston continued his presentation. The Distribution Operations Reserve Fund was below the minimum guideline level in 2017, but staff will transfer funds so that the balance falls within guideline levels. The Supply Operations Reserve Fund should meet the target level during the forecast period. The Distribution Operations Reserve Fund is expected to remain at the target level.

In answer to Chair Danaher's question about reasons for the Supply Operations Reserve Fund rising and falling in 2018, 2019, and 2020, Keniston indicated it was a result of staff's proposed transfers of funds between supply and distribution reserve funds.

In reply to Commissioner Johnston's inquiry regarding a way to spread the proposed rate increases over five years, Keniston advised that the 6% rate increase was needed to keep fund balances within guideline ranges given the cost projections. Even with the increase, staff planned to withdraw funds from the Electric Special Projects Reserve Fund as a temporary loan. Abendschein clarified that the Utility has only limited control over supply costs because they are influenced long term rather than year-to-year, so it was difficult to make short-term adjustments to reduce the rate increases. Costs could be controlled over the long term. For example, the Utility works with partner agencies to intervene in transmission cases, which can achieve significant savings. One short-term cost containment measure is Northern California Power Agency's (NCPA) recent refinancing of debt on the Calaveras resource. Palo Alto's share of that savings will be a few hundred thousand dollars. Noting the Commissioners comment on Silicon Valley Power having lower rates, he said that Silicon Valley Power, which is the City of Santa Clara's utility, has lower rates than Palo Alto because it ended its final coal contract in December, has an in-town gas plant on which there is little debt, and seeks data center and manufacturing customers. Shikada added that the location of the gas plant allows Santa Clara to avoid the transmission access charge.

Chair Danaher proposed staff include reasons for the rate increase in the staff report to the Council. In response to his question regarding the cost of a bad drought year to the Utility, Keniston indicated the Utility could easily exhaust all funds in the Hydroelectric Stabilization Reserve Fund. Abendschein stated the estimated cost of a drought year is $8-$10 million. Chair Danaher did not believe the Utility has sufficient reserve fund balances to delay a rate increase.

In reply to Commissioner Forssell's question about whether the hydroelectric rate adjuster would help the Utility in drought years, Abendschein reported the adjuster will be helpful. When reserve fund balances are low and the year is dry, the effective percentage increase for the rate adjuster is in the ballpark of 8%-10% on the bill. If the Council chooses to reduce reserve funds in order to spread rate increases over future years, the risk of going from no rate adjuster to a full rate adjuster in one year increases. Higher reserve balances would allow the rate adjuster to be implemented at a lower level (about 5% bill impact) in the first year and perhaps 10% in the second year.

In response to Vice Chair Ballantine's question about the impact of the Cost of Service Study on the use of tiered rates, Keniston advised that one tier of rates was eliminated due to the Cost of Service Study. The existing tier structure will not change.

ACTION: Vice Chair Ballantine moved to recommend the City Council adopt 1) a Resolution approving the Fiscal Year 2019 Electric Financial Plan, and 2) a Resolution increasing Electric Rates by 6% by amending the E-1, E-2, E-2-G, E-4, E-4-G, E-4 TOU, E-7, E-7-G, E-7 TOU, and E-14 Rate Schedules. Commissioner Johnston seconded the motion. The motion carried 5-0 with Chair Danaher, Vice Chair Ballantine, Commissioners Forssell, Johnston, and Schwartz voting yes.

ITEM 2. ACTION: Staff recommendation that the Utilities Advisory Commission recommend that the City Council adopt 1) a Resolution approving the Fiscal Year 2019 Gas Utility Financial Plan, and 2) a Resolution increasing Gas Rates by 4% by amending Rate Schedules G-1 (Residential Gas Service), G-2 (Residential Master-Metered and Commercial Gas Service), G-3 (Large Commercial Gas Service), and G-10 (Compressed Natural Gas Service).

Eric Keniston, Senior Resource Planner, reported staff recommends a 4% rate increase in fiscal year 2019 followed by increases of 8% and 7%. Again, a projected increase in capital investment costs drives the rate increase. Currently, gas supply is projected to remain relatively flat; although, the projection can change at any time. Gas supply and operations are expected to increase by approximately the rate of inflation. Over the long term, operations, distribution, and capital improvements are major cost drivers. Commodity costs

decreased overall between fiscal year 2013 and fiscal year 2022. The Operations Reserve Fund is projected to decrease. The proposed rate increases anticipate staff reducing the Rate Stabilization Reserve Fund to zero by fiscal year 2020. Costs for commodity, Cap-and-Trade, carbon neutrality, and transmission will continue to pass through to customers. Reserve funds are quite healthy at the current time; however, staff anticipates cost increases for capital spending will reduce reserve fund balances to the minimum guideline level in approximately 2022. Larger subsequent rate increases will be necessary to retain reserve fund balances at the minimum level. For the Operations Reserve Fund, the risk assessment level is slightly below the minimum guideline level, which is only $6 million. The change to most customers' bills will be about 4%. Palo Alto residential bill amounts during winter months are well below PG&E's bill amounts and slightly higher than PG&E's during summer months. Commercial bill amounts are about the same as PG&E's commercial bills.

In answer to Commissioner Johnston's question regarding Tables 1 and 2 in the staff report about what parts of the bill were being increased, Keniston explained that staff increased the distribution component by 6% such that the net effect on the overall bill is 4%. The distribution component is not a pass-through cost. Distribution is comprised of all operations within the City system, maintenance of mains, and capital improvements for mains. Distribution is driving the overall increase in the short-term. The gas main replacement project will drive the increase in 2019, and meters compatible with advanced metering infrastructure (AMI) will drive the increase in 2020 and 2021. Ed Shikada, Utilities General Manager, reported the cost for the gas main replacement project is $7 million in fiscal year 2020 and beyond. Staff is beginning to explore the possibility of spreading the cost of AMI through debt financing.

Commissioner Schwartz suggested staff frame the increase in terms of safety and emissions control and talk about the benefits of capital improvements rather than merely the projects. Staff should include in the staff report historical data refuting the concept that maintenance should be deferred to the future when costs will be less.

In reply to Commissioner Forssell's query about the impact of higher-than-expected bids for capital improvement projects on the health of the Gas Utility if reserves declined, Keniston indicated staff would withdraw money from reserve funds to cover the increased costs if the utility received higher than expected bids. Currently, reserve funds can absorb higher-than-expected bids, but in later years it could result in a higher rate increase.

In response to Chair Danaher's request for an explanation of the structure of the minimum and maximum reserve guidelines, why those guidelines were not increasing despite costs increasing, and of the elimination of the Rate Stabilization Reserve Fund, Keniston stated the minimum guideline level for the Operations Reserve is calculated as 60 days of operating and commodity expenses. The maximum guideline level is 120 days of operating and commodity expenses. The other reserve funds, like the Rate Stabilization Reserve, were used for specific purposes. Jonathan Abendschein, Assistant Director of Resource Management, clarified that most of the cost increases were related to capital improvement costs, which were not used to calculate the minimum and maximum guideline levels, and therefore the minimum and maximum guideline levels were not increasing significantly.

In answer to Commissioner Forssell's asked a follow-up question, noting that operational costs were increasing at the rate of inflation and the guideline levels should increase. Abendschein explained that there were near-term one-time operational costs that increased the guideline levels in the near term. When those costs were removed from the budget in later years, it ended up offsetting inflationary increases for the purpose of guideline calculation.

In answer to Chair Danaher's query about capital costs and the Operations Reserve Fund, Keniston advised that the Capital Improvement Program (CIP) budget covers capital costs. Dave Yuan, Strategic Business Manager, reported that staff doubled the budget for capital projects. Abendschein added that staff uses the Operations Reserve Fund for capital cost variances but ensures the balance remains within the guidelines.

ACTION: Commissioner Johnston moved to recommend the City Council adopt 1) a Resolution approving the Fiscal Year 2019 Gas Utility Financial Plan, and 2) a Resolution increasing Gas Rates by 4% by amending Rate Schedules G-1 (Residential Gas Service), G-2 (Residential Master-Metered and Commercial Gas Service), G-3 (Large Commercial Gas Service), and G-10 (Compressed Natural Gas Service). Vice Chair Ballantine seconded the motion. The motion carried 5-0 with Chair Danaher, Vice Chair Ballantine, and Commissioners Forssell, Johnston, and Schwartz voting yes.

ITEM 3. DISCUSSION: Local Solar Plan Progress Update and Next Steps

Sonika Choudhary, Resource Planner, reported on CPAU's implementation efforts related to the Local Solar Plan (LSP) and sought commissioner's feedback on revisiting the LSP goal and program priories. In 2014, the Council adopted the LSP, which integrated existing programs and set strategies to reduce soft costs and barriers to adoption of solar. In addition, the Council directed staff to consider new program initiatives such as the Community Solar Program, Solar Donations, and the Group Buy Program. Palo Alto has seen considerable local solar growth over past two decades. SB-1 in 2006 set a goal to install solar on 1 million roofs and required Palo Alto to provide $13 million in rebates over the next ten years. From 2006 to 2013, local solar development in Palo Alto was mainly incentivized through the PV Partners rebate program. In 2014, the LSP was developed when PV Partners rebate was about to be fully reserved. LSP guided staff to develop cost-effective local solar programs. Since the adoption of LSP, the Group Buy program has been offered for three consecutive years now. This program has been successful in providing clarity on the price of local solar through turnkey solution providers. Under the LSP guidance, staff also developed the Net Energy Metering Successor Program (NEM 2). CPAU is one of the first utilities in the state to provide compensation to solar customers based on the value of solar and not to provide a 100% retail offset. Other new programs envisioned under the LSP, such as the Community Solar program, are still in the evaluation phase. Staff is not considering a new Solar Donation program, given the challenge of finding a suitable nonprofit. If all significant solar projects in the pipeline in 2018 were constructed, over 2% of Palo Alto's energy would come from local solar. However, given current projections for 2023, CPAU likely will not achieve the 4% goal of the LSP.

Choudhary further discussed two alternatives to revisit the LSP 2023 goal and program priorities. Alternative 1 continues efforts to achieve the 4% goal by 2023 through new solar programs and attracting new customers. Alternative 2 directs staff to facilitate customers' conversion to solar, to revisit or discontinue program goals for local solar penetration, and to evaluate new solar programs within the Distributed Energy Resources (DER) framework.

Commissioner Schwartz sought clarity on the source of the 4% goal. In response to Commissioner Schwartz's question, Monica Padilla, Senior Resource Planner, advised that the goal of 4% by 2023 was an acceleration of a forecast for achievements by 2030. It was suggested by the community advocates at the time of developing the LSP.

Commissioner Schwartz questioned the lack of enthusiasm for rooftop solar in comparison to electric vehicles (EV). Vice Chair Ballantine did not understand how the LSP makes delivering utility service to customers more reliable or more carbon neutral. In contrast, everyone understands the benefit of driving an EV. Commissioner Schwartz suggested fewer people may be willing to be green than expected. Choudhary indicated staff directs customers to energy efficiency and electrification programs when residents contact staff about solar. Vice Chair Ballantine remarked that endorsing LSP programs is effectively deciding that solar panels should be located inside the City instead of in a large solar farm because residents want higher rates. He much preferred Alternative 2. Choudhary explained that local solar helps hedge against increasing transmission access charges in the future. Vice Chair Ballantine noted the last time the UAC discussed local solar, it was still more expensive than transmission charges. Jonathan Abendschein, Assistant Director for Resource Management, indicated the City set its rates so that it is indifferent to people putting solar on the roof. The potential driver of increased costs and, therefore rates is the amount of staff time spent on promoting a program to achieve the 4% goal by 2023 rather than the cost of the energy. Staff works on programs that customers want because that enhances the public's perception of the City as a trusted advisor regarding energy use.

Commissioner Schwartz suggested coincident and non-coincident supply and demand be considered in whichever alternative is chosen. With Alternative 2, programs can be placed in the context of providing a benefit to the entire community.

In answer to Commissioner Johnston's question of why local solar does not provide the benefits of local generation, Vice Chair Ballantine explained the problem of the conventional solar inverter, which is a grid-tie only solar inverter. There is a way to make such an inverter act in a standalone fashion, but it is awkward. By adding energy storage to solar, solar can stand alone. Commissioner Johnston commented that given the way local solar generation would tie into the grid, the only benefit from local generation is reduced transmission charges. Choudhary reported that storage is needed for solar to operate when the grid is down.

Commissioner Forssell felt the LSP goal was adopted from a desire to do the right thing and to be green. The 4% goal was laudable in 2014, but so much has been learned since 2014. Now, the aspirational goal for a program is sustainability and resiliency. She too favored Alternative 2. Hopefully staff is hearing the UAC's interest in a new aspirational policy direction that incorporates storage with solar.

Chair Danaher suggested staff revisit the 4% goal and quantify different choices in terms of the amount of staff time devoted to the program.

Commissioner Schwartz commented that developing community solar microgrid applications that work in an emergency would be something to explore.

Chair Danaher thought the UAC supported Alternative 2.

ACTION: No action

ITEM 4. DISCUSSION: Assessment of CPAU's Distribution System to Integrate Distributed Energy Resources
Sonika Choudhary, Resource Planner, reported in November the UAC heard strategies for developing a Distributed Energy Resource (DER) Plan, which will inform integrated resource planning. The purpose of this item is to share results of the system assessment and understand potential system capabilities, constraints, and mitigations. Benefits of well-integrated DERs include the potential for intentional islanding or creating a microgrid and peak shaving of the system or the potential for investment deferral. Challenges of integrated DERs include overloading of system components, voltage fluctuations, and protection issues. An integration capacity analysis has been conducted to understand how much the system can handle without needing any significant upgrades. Palo Alto receives power from the PG&E transmission line at the Colorado Power substation. From there, power is distributed to nine substations throughout the City.

Ed Shikada, Utilities General Manager, announced Monica Padilla is retiring from the City and thanked her for 31 years of service to the City of Palo Alto.

Choudhary continued, stating the system is designed with radial flow of power from high voltage to lower voltage to end customers. The main components of the system are substations, feeder lines, and local neighborhood distribution transformers. Larger components of the system are visible through the Supervisory Control and Data Acquisition (SCADA) monitoring system. Smaller components include distribution transformers and end meters, which are not visible because the City does not have advanced metering infrastructure (AMI). The peak load is close to 200 MW, and commercial customers consume 80% of energy sales. Most DERs come from the customer side and have the potential to interfere with the radial flow of electricity from high voltage to low voltage.

Choudhary shared an illustrative CPAU system peak day load profile in 2030, where the system peaks between 3:00 and 5:00 p.m. in the summer time mainly dominated by commercial customers energy use. Staff is assuming a typical generation profile of local solar occurring from 10:00 a.m. to 5:00 p.m.; the electric

vehicle (EV) peak occurring during the night with some usage during the day for workplace charging; and the energy efficiency impact reflected in the system throughout the day. Some technologies (such as Demand Response and Energy Storage) are being dispatched in the middle of the day to decrease the peak load. Overall, the cumulative impact of DERs is to flatten the load profile at the system level. However, the impact of DERs will look different for the sub-components of the system. In residential neighborhoods, staff anticipates a 30% load increase by 2030 mainly driven by EV growth.

Vice Chair Ballantine asked what assumptions for EVs staff has assumed for these projections. Choudhary replied that Palo Alto residents owned almost 3,000 EVs at the end of 2017. Staff expects the number of EVs will almost double to 5,000 or 6,000 by 2020, depending on when long-range EVs become available. By 2030, staff expects 40% of residential customers will own EVs and almost an equal number of commuters will use EVs to travel into Palo Alto. Another assumption is a majority of EV charging occurs at home.

In reply to Vice Chair Ballantine's query regarding whether staff's models differentiated between today's plug-in hybrid EV and the future long-range EV, Choudhary indicated the current model is too simplistic to differentiate the two.

In response to Commissioner Schwartz's inquiry into the small amount of capacity projected to be needed for commuters driving EVs into Palo Alto, Choudhary explained that the assumption is that charging for incoming commuters will be part of the commercial load. Because commercial customers consume 80% of energy sales, the impact of EVs in addition to commercial consumption will be small.

Vice Chair Ballantine voiced concern that the model does not adequately account for the size of EV batteries and the potential impact of simultaneous charging of EVs. He described a situation in which several neighbors returned home from a long road trip and tried to charge their high-range vehicles simultaneously overnight, creating an unusually large impact on the system.

Jimmy Pachikara, Senior Electrical Engineer, disclosed that there is load diversity and load factor with EV charging similar to other home appliances. The connected load may be X watts, but a load factor is applied because the charger will not run constantly.

Vice Chair Ballantine stated a heavier battery may require charging less often but for a longer time. Again, he was worried that the model does not accurately consider these variables in usage patterns. Choudhary described that larger components of CPAU's system, such as substation transformers, are designed to operate at 50% of the rated capacity, and have room to accommodate unusual spikes in usage. However, neighborhood distribution transformers are most vulnerable to increased electrification load growth. The electric Utility is currently conducting case-by-case upgrades. One mitigation option is installing more pole-top transformers so that one 25 kVA transformer serves three to four homes rather than eight homes. Another option could be managed or intelligent charging so that neighborhood distribution transformers do not peak at the same time. Vice Chair Ballantine liked the idea of building in sufficient capacity in neighborhood distribution to handle increased load in the future. Jonathan Abendschein, Assistant Director for Resource Management, agreed it was important to consider the impact of unusual situations in addition to routine situations.

Shikada related one neighborhood's preference for not increasing transformer capacity proactively if increased capacity means the transformers would have to be located above ground with the attendant aesthetic impacts.

Commissioner Schwartz remarked that predictive analytics could be useful in determining the likely locations of EV concentrations.

Choudhary reported that next steps include a study of distribution transformers, consideration of aesthetic impacts, review of fees charged for home upgrades, and exploration of smart inverter capabilities.

ITEM 5. ACTION: Selection of Potential Topic(s) for Discussion at Future UAC Meeting
Commissioner Johnston requested a future agenda item for the Cool Block Program.

Ed Shikada, Utilities General Manager, noted the budget will be a topic of discussion for the UAC. The May meeting will begin at 4:00 p.m.

Chair Danaher advised Commissioners that the July and August meetings will be combined into one meeting, which will likely be scheduled in July.

Dean Batchelor, Chief Operating Officer, reported the City Attorney's Office is reviewing the Request for Proposals (RFP) regarding Fiber to the Premises. Staff will provide Commissioners a copy when the RFP is ready for release.

The next meeting is scheduled for May 2, 2018.

Meeting adjourned at 9:08 p.m.

Respectfully Submitted,
Marites Ward
City of Palo Alto Utilities